☆ IMPORTANT INFORMATION ☆KEEP FOR OPERATOR ☆IMPORTANT INFORMATION ☆

OPERATOR AND SERVICE MANUAL OM/SM-NHFP

Part Number 121061 Rev B **DOMESTIC**

MODEL: NHFP
Braising Pans

Stainless Steel
Power Tilting
Gas Heated

THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.

WARNING

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

POST IN A PROMINENT LOCATION

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT USER SMELLS GAS. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING YOUR LOCAL GAS SUPPLIER. AS A MINIMUM, TURN OFF THE GAS AND CALL YOUR GAS COMPANY AND YOUR AUTHORIZED SERVICE AGENT. EVACUATE ALL PERSONNEL FROM THE AREA.

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

GROEN

MADE IN USA

IMPORTANT — READ FIRST — IMPORTANT

CAUTION: SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.

CAUTION: UNIT WEIGHS 500 TO 600 LB. (230 TO 255 KG). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.

WARNING: INSTALLATION OF THE BRAISING PAN MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING: THIS UNIT IS DESIGNED FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET GAS CODES AND COULD BE HAZARDOUS.

DANGER: ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.

WARNING: KEEP THE APPLIANCE AREA FREE AND CLEAR OF COMBUSTIBLE MATERIALS.

CAUTION: BE SURE ALL OPERATORS READ, UNDERSTAND AND FOLLOW THE OPERATING INSTRUCTIONS, CAUTIONS AND SAFETY INSTRUCTIONS CONTAINED IN THIS MANUAL.

CAUTION: KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.

WARNING: WHEN TILTING BRAISING PAN FOR PRODUCT TRANSFER:

1) WEAR PROTECTIVE OVEN MITT AND PROTECTIVE APRON.
2) USE CONTAINER DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING.
3) PLACE CONTAINER ON STABLE, FLAT SURFACE, AS CLOSE TO PAN AS POSSIBLE.
4) STAND TO SIDE OF PAN WHILE POURING — NOT DIRECTLY IN POUR PATH OF HOT CONTENTS.
5) RETURN PAN BODY TO LEVEL POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.
6) DO NOT OVER FILL CONTAINER. AVOID DIRECT SKIN CONTACT WITH HOT CONTAINER AND ITS CONTENTS.

WARNING: IF PAN DOES NOT MOVE WHEN TILT SWITCH IS ACTIVATED, DO NOT CONTINUE TO HOLD THE SWITCH IN EITHER THE RAISE OR LOWER POSITION. DAMAGE TO THE MOTOR OR SLIP CLUTCH MAY RESULT.

CAUTION: WHEN ADJUSTING THE SLIP CLUTCH, TIGHTEN THE NUT IN INCREMENTS OF 45 DEGREE TURNS OR LESS. OVER-TIGHTENING THE NUT WILL OVERRIDE THE CLUTCH AND CONVERT THE ACTUATOR INTO A DIRECT DRIVE. BOTH THE PAN AND THE ACTUATOR COULD BE DAMAGED.

WARNING: DO NOT HEAT AN EMPTY PAN FOR MORE THAN 5 MINUTES AT A SETTING HIGHER THAN 300°F.

WARNING: IF THE PAN CONTAINS ITEMS IN SAUCE OR MELTED FAT, THEY CAN SLIDE FORWARD SUDDENLY DURING TILTING AND CAUSE THE HOT LIQUID TO SPLASH OUT.

WARNING: AVOID ALL DIRECT CONTACT WITH HOT FOOD OR WATER IN THE PAN. DIRECT CONTACT COULD RESULT IN SEVERE BURNS.

WARNING: KEEP WATER AND SOLUTIONS OUT OF CONTROLS AND BURNERS. NEVER SPRAY OR

HOSE THE CONTROL CONSOLE, OR ELECTRICAL CONNECTIONS.

CAUTION: MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.

WARNING: THE CONTROL BOX IS NOT WATERPROOF. TAKE CARE TO KEEP WATER AND CLEANING SOLUTIONS OUT OF THE BOX. NEVER HOSE OR SPRAY ELECTRICAL CONTROLS, CONNECTIONS OR CONTROL CONSOLE.

WARNING: BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY AND CLOSE THE MAIN GAS COCK. ALLOW FIVE MINUTES FOR UNBURNED GAS TO VENT.

CAUTION: USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY GROEN OR AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

IMPORTANT: SERVICE PERFORMED BY OTHER THAN FACTORY AUTHORIZED PERSONNEL WILL VOID ALL WARRANTIES.

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Equipment Description

Groen NHFP Gas Fired Braising Pans provide a stainless steel pan equipped with heat transfer fins, burner/combustion chamber, power tilting mechanism, thermostatic controls, and hinged cover. The Braising Pan serves as a braising unit, griddle, fry pan, oven, kettle, *bain marie,* or food warmer and server. It can also be adapted for use as a steamer.

The pan body is constructed of heavy-duty stainless steel welded into one solid piece, with a polished interior and a semi-deluxe finish on the exterior. A pouring lip is welded into the front wall. The cooking surface is a stainless steel clad plate fitted with welded heat transfer fins that assure uniform heat transfer over the entire surface. The gas burner/combustion chamber supplies the heat.

The pan is tilted forward by an electrically powered actuator mechanism. A three-position switch on the front of the control console gives the operator positive, smoothly operating control of tilting. When the pan is tilted, the burners shut off automatically.

The thermostat provides automatic control of cooking temperature. The thermostat dial on the front of the control console turns the heat on or off and sets the pan temperature.

A vented, heavy gauge, one-piece, stainless steel cover with rear condensate drip shield on its underside is standard on the Braising Pan.

A fully enclosed, spring-type actuator counterbalances the cover to keep it opened or closed. The cover opens to the back and is hinged to the frame, so that it moves independently of the pan body.

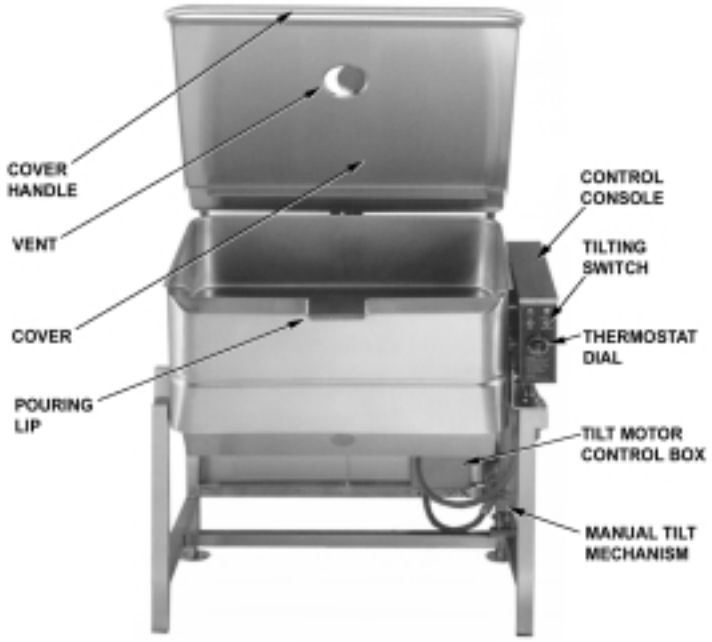
The NHFP uses an electronic spark ignition system.

The following models and options are available:

Model	Pan Body Dimensions, Inches		
	Left to Right	Depth	Firing Rate
NHFP-3	31¾	9	104,000 BTU/hr
NHFP-4	41⅜	9	144,000 BTU/hr

Optional Equipment (Any Model)

1. Fill faucet with swing spout
2. Model REJ Steamer Insert
3. Caster mounting kit (factory installation only)
4. Two inch tangent draw-off



Inspection and Unpacking

The unit will arrive completely assembled, wrapped in protective plastic on a heavy skid, in a heavy cardboard carton. Immediately upon receipt, inspect the carton for damage. Report any apparent shipping damage or an incorrect shipment to the delivery agent.

When installation is to begin, get someone to assist in removing the carton. Lift it straight up and away from the unit. **Do not simply raise it and push backwards - you will break the cover assembly vent handle.** Write down the model number, serial number, and installation date of your unit, and keep this information for future reference. Space for these entries is provided at the top of the Service Log in this manual.

Cut the straps holding the unit on the skid, and lift the unit straight up off the skid.

CAUTION
SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.

UNIT WEIGHS 500 TO 660 LB (230 TO 255 KG). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.

Installation

The NHFP Braising Pan should be installed in a ventilated room for efficient performance. Items which might obstruct or restrict the flow of air for combustion and ventilation must be removed. The area directly around the braising pan must be cleared of all combustible material.

WARNING
BRAISING PAN INSTALLATION MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

1. Installation on combustible floors is allowed, with a minimum clearance to combustible and noncombustible construction of six inches at the rear, two inches at the left, and zero inches at the right.
2. Install the unit under a vent hood.
3. Level the unit by adjusting the bullet feet or floor flanges on the legs. Make sure the tilting mechanism has been run all the way to the horizontal position. Check levelness with a spirit level set on the bottom of the pan body. Anchor the rear legs securely to the floor.
4. Complete the piping to the gas service by using 1/2 inch IPS pipe or approved equivalent.

WARNING:
THIS UNIT IS FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET GAS CODES AND COULD BE HAZARDOUS.

5. For a unit on casters, complete connection to the gas supply with connectors that comply with the standard for Connectors for Moveable Gas Appliances, ANSI Z21.69a-latest edition. Restrain movement of the unit by attaching a cable or chain to the eyelet (provided at the back of the frame) and anchoring the cable or chain to the wall or floor. Make the length and location of the cable such that the unit cannot pull on the gas connection while the cable is connected. The gas connection must be made with a quick disconnect device which complies with ANSI Z21.41b - latest edition.

WARNING
ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.

6. Provide 115 Vac, 60 Hz, 5 Amp electrical service. Local codes and/or National codes should be observed in accordance with ANSI/NFPA70 - latest edition. AN ELECTRICAL GROUND IS REQUIRED. The Electrical Schematic is located on the inside of the Service Panel.

   In Canada, provide electrical service in accordance with the Canadian Electrical Code, CSA-C22.1 Part 1, and/or local codes.

7. The installation must conform with the American National Standard Z223.1 - latest edition National Fuel Gas Code. The unit should be installed in an adequately ventilated room with an adequate air supply. The best ventilation will use a vent hood and exhaust fan. DO NOT obstruct the flue or vent.

8. In Canada, the installation must conform to CAN/CGA B149, Installation Codes for Gas Appliances and Equipment, and/or local codes.

9. The braising pan and its shutoff valve must be disconnected from the gas supply piping system during any testing at pressures in excess of ½ psig (3.48 kPa). The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.48 kPa).

9. Space for servicing and operation is required. DO NOT block any air intake spacing to the combustion chamber or obstruct air flow.

10. After the pan has been connected to the gas supply, check each gas joint for leaks. Use a thick soap solution or other suitable leak detector. Do not use a flame to check for leaks.

Initial Start-Up

Now that the Braising Pan has been installed, you should test it to ensure that the unit is operating correctly.

1. Remove all literature and packing materials from the interior and exterior of the unit.
2. Put enough water into the pan to cover the bottom to a depth of 1/4 to 1/2 inch. With the tilting mechanism run to the horizontal position, note how the water lies in the pan, to confirm that the pan was leveled properly during installation.
3. Following "To Start Pan" instructions for your pan model, begin heating the water at a thermostat setting of 235ºF. At this setting, heating should continue until the water boils.
4. To shut down the unit, turn the thermostat dial to "OFF," and set the power switch to “OFF.”.

WARNING
WATER IS EXTREMELY HOT AND CAN CAUSE SEVERE BURNS. AVOID WATER WHEN EMPTYING UNIT.

5. Press the power tilt switch down to pour out the water and to confirm that the pan body can be tilted from horizontal to vertical. Pull the switch up to lower the pan.

If the unit functions as described above, it is ready for use. If it does not, contact your local Groen Authorized Service Agency.

Operation

A. Controls

Operator controls for the Braising Pans are:

1. The Power On Switch, and Power On indicator.

2. The thermostat dial, located on the control console to the right of the pan body. This dial is used to turn the thermostat on or off and to set the thermostat for pan temperatures between 175º and 425ºF.

3. HEATing indicator light located on the control console, which lights when the burners have ignited.

4. The power tilt switch, also located on the control console, which is used to raise or lower the pan body

5. The main supply gas cock, installed on the gas line to the unit.

B. Operating Procedure

WARNING
KEEP THE APPLIANCE AREA FREE AND CLEAR OF COMBUSTIBLE MATERIALS.

CAUTION
BE SURE ALL OPERATORS READ, UNDERSTAND AND FOLLOW THE OPERATING INSTRUCTIONS, CAUTIONS AND SAFETY INSTRUCTIONS CONTAINED IN THIS MANUAL.

KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.

1. To Start Pan (See Panel Overlay)

   a. Set the Power Switch to “OFF.”

   b. Set the thermostat to “OFF.”

   c. Open the main supply gas valve (handle parallel to the gas pipe).

   d. Set Power Switch to “ON.

   e. Rotate the thermostat dial until the Heat Light comes on. (It lights when the main burner is on).

2. To Turn Off Pan

   a. Set the thermostat to "OFF".

   b. Set Power Switch to “OFF.”

   c. For a prolonged shut-off period:

      1) Turn the main gas valve OFF (handle at right angles to the gas pipe).

      2) Disconnect the electrical power from the unit.

3. If Power Fails

   a. Do not try to operate the unit until power is restored.

   b. When power is restored, follow directions under “To Start Pan.”

WARNING
WHEN TILTING BRAISING PAN FOR PRODUCT TRANSFER:

1) **WEAR PROTECTIVE OVEN MITT AND PROTECTIVE APRON.**
2) **USE CONTAINERS DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING**
3) **PLACE CONTAINER ON A STABLE, FLAT SURFACE, AS CLOSE TO THE BRAISING PAN AS POSSIBLE.**
4) **STAND TO THE SIDE OF THE PAN WHILE POURING — NOT DIRECTLY IN THE POUR PATH OF HOT CONTENTS.**
5) **RETURN PAN BODY TO UPRIGHT POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.**
6) **DO NOT OVERFILL CONTAINER. AVOID DIRECT SKIN CONTACT WITH HOT CONTAINER AND CONTENTS**

1. *To Tilt Either Model*

   a. Press the power tilt switch **down to raise** the pan or **up to lower** the pan.

   b. The spring loaded switch will return to the OFF (middle) position when you release it.

   c. If the power tilt mechanism stops working (see the Troubleshooting section) and you must raise or lower the pan body without delay, you can tilt the body by hand. Remove the small plug from the front of the actuator and fit the provided tool into the hole (front of the unit). Turn the tool clockwise to raise the pan or counterclockwise to lower it. It may take several minutes to move the pan to the desired position, but the operation can be speeded up by substituting a reversible drill with a 3-4 straight slot screwdriver bit in place of the tool.

4. *To Move a Unit on Casters*

   The unit must be anchored with a cable or chain to avoid accidentally breaking or pulling loose the gas connection. When the unit is to be moved, first turn off and disconnect the gas connection. Disconnect the cable from its anchor point on the floor or wall. Anchor the unit again as soon as it is in its new operating location or returned to the previous location. Turn on the gas supply and check for leaks with a soap solution. If leaks are found do not operate the equipment. Call for service.

5. *To Preheat the Pan*

   a. For best braising or frying results, preheat pan before you put in any food.

   b. To get an even temperature across the pan, preheat at a setting of 300°F or less for 15 minutes or through several on-off cycles of the burner.

WARNING
DO NOT HEAT AN EMPTY PAN FOR MORE THAN FIVE MINUTES AT A SETTING HIGHER THAN 300°F. DAMAGE TO THE PAN COULD RESULT.

C. Cooking

1. To simmer or slowly heat an item, set the dial at about 210°F or lower. Put the cover down to keep moisture loss at a minimum, or leave the cover up to help dry the product. Set the thermostat higher to cook or drive off moisture faster. You may adjust the thermostat to any setting in the thermostat range to cook the item exactly as required.

2. Leave the cover vent open to let excess steam escape. For long simmering operations, you may wish to close the vent.To check cooking progress when the cover has been closed, grasp the plastic handle of the vent cover, lift it slightly, and move it quickly to either side.

3. Standing to one side of the pan (to avoid the steam that will be released) grasp the nearer corner of the cover handle and raise the cover. The cover will stay in the open position until you push it down.

4. To pour or dump product, remove grease, or assist cleaning, first raise the cover, then tilt the pan up and forward by pressing down on the power tilt switch. When you release the switch, the pan body will hold its position.

WARNING
IF THE PAN CONTAINS ITEMS IN SAUCE OR MELTED FAT, THEY CAN SLIDE FORWARD SUDDENLY DURING TILTING AND SPLASH OUT THE HOT LIQUID.

D. Cleaning

After each use, turn the thermostat to "OFF" and clean all food-contact surfaces to maintain proper sanitation. At the end of each day or at least once every 12 hours, turn off the heat and shut off the electric power to the unit, then clean both the interior and the exterior of the pan. See page 11 for cleaning instructions.

Sequence of Operation

The following "action-reaction" outline is provided to help the user understand the functioning of the equipment.

1. When the power switch is turned on, it starts the spark igniter and opens the automatic valve for the pilot burner. The spark ignites a pilot flame, which heats the sensor. The sensor then sends a signal to turn off the spark. The flame thereafter acts as a standing pilot until the power is turned off.

2. If the pilot flame is not sensed within 90 seconds after spark begins, a timer shuts down the entire operation. To attempt a second trial for ignition, turn off the power switch. Check the gas supply valves and wait five minutes before trying again by switching power on. If there is still no pilot flame in four tries, close all valves, turn off the power, and contact an authorized Groen Service Agency.

3. When the operator sets a temperature on the thermostat, it causes the automatic valve to admit gas to the main burner, where it is ignited by the pilot flame. When the braising pan reaches the set temperature, the thermostat switch opens. This stops the signal to the gas control valve and shuts off gas to the main burner. The pilot flame remains lit. When the pan cools below the set temperature, the thermostat switch closes and starts another cycle. On and off cycling continues and maintains the pan at the desired temperature. This action is indicated by the Heat indicator light.

4. The thermostat controls heating by alternately calling for flames at the full capacity of the main burner and then signaling the control to shut the burner off completely. Because the control works in this "all or nothing" manner, the pan heats as fast as it can until it reaches the set temperature, no matter what that temperature is. Turning the thermostat dial to a higher setting will cause heating to continue longer, until the pan reaches the higher temperature, but it cannot make the pan heat any faster.

5. The pans are protected from overheating by the high-limit thermostat. If the pan temperature rises above 425°F, the high-limit thermostat causes the automatic gas control valve to close. When the pan cools, the thermostat automatically resets and permits normal operation to continue.

6. The power tilt switch controls a reversible motor that drives the actuator screw mechanism. When the switch is held in the lowered position, the mechanism raises the pan body. The body rests on trunnions near the front corners, so it tilts forward until the switch is released or the body reaches the vertical limit. Any time the pan is tilted more than ten degrees from the horizontal, a tilt limit switch automatically turns off the gas flow to the main gas burner.

7. The motor and actuator assembly which raises and lowers the pan body contains a slip clutch. This clutch was set at the factory to allow the actuator to lift its rated maximum load. If the maximum load is exceeded, or if the mechanism is jammed at either end of a stroke, the clutch will slip. It may also slip after extensive normal use. **If the tilt mechanism fails to operate, you must adjust the slip clutch. See Page 12 for adjustment instructions.**

CAUTION
DO NOT CONTINUE TO OPERATE THE TILT SWITCH IF THE PAN DOES NOT RAISE OR LOWER WHEN IT IS ACTIVATED. DAMAGE TO THE MOTOR AND/OR SLIP CLUTCH MAY RESULT.

8. If the tilting motor gets too hot during operation, an overheat protection switch will open and stop the motor. When the motor cools sufficiently, the switch will reset automatically and permit tilting to begin again.

9. The tilt switch will shut off all burners whenever the braising pan is tilted.

10. A gas pressure regulator, which controls gas pressure at the burner manifold is built into the gas control valve.

Cleaning

WARNING
KEEP WATER AND SOLUTIONS OUT OF CONTROLS AND BURNERS. NEVER SPRAY OR HOSE THE CONTROL CONSOLE OR ELECTRICAL CONNECTIONS.

1. Before any cleaning operation, shut off the burner by turning the thermostat dial to "OFF". If water or cleaning solution will be sprayed, unplug the unit from the electric power source, or shut off the power at the circuit breaker or fuse panel.

2. Clean all food-contact surfaces soon after use, before the pan has cooled completely. If the unit is in continuous use, thoroughly clean and sanitize both interior and exterior at least once every 12 hours.

CAUTION
MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.

3. Scrape or rinse out large amounts of food residues, then wash the inside of the pan body with a mixture of hot water and soap or an appropriate detergent, such as Mikro-Quat from ECOLAB. Follow the detergent supplier's recommendations on strength of the solution to use. Rinse the pan thoroughly with hot water and drain completely.

4. To remove materials stuck to the equipment, use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool along with the detergent or soap solution. To minimize the effort required in washing, let the detergent solution sit in the pan and soak into the residue, or heat the detergent solution briefly in the pan. Do NOT use any abrasive materials or metal implement that might scratch the surface, because scratches make the pan hard to clean and provide places for bacteria to grow. Do NOT use steel wool, which may leave particles imbedded in the pan surface and cause eventual corrosion and pitting.

5. As part of the daily cleaning program, clean all external and internal surfaces that may have been soiled. Remember to check such parts as the underside of the cover, control console, etc.

6. Controls and the control console may be cleaned with a damp cloth.

Scrapers or steel wool can harm the braising pan surface.

Use a sponge, cloth or plastic brush to clean the braising pan.

WARNING
THE CONTROL BOX IS NOT WATER-PROOF. TAKE CARE TO KEEP WATER AND CLEANING SOLUTIONS OUT OF THE BOX. NEVER HOSE OR SPRAY ELECTRICAL CONTROLS, CONNECTIONS OR CONTROL CONSOLE.

7. Exterior surface of the unit may be polished with a recognized stainless steel cleaner, such as "Zepper" from Zep Manufacturing Co.

8. If the equipment needs to be sanitized, use a sanitizing solution equivalent to one that supplies 200 parts per million available chlorine. Obtain advice on the best sanitizing agent from your supplier of sanitizing products. Following the supplier's instructions, apply the sanitizing agent after the unit has been cleaned and drained. Rinse off the sanitizer thoroughly.

9. If there is difficulty removing mineral deposits or a film left by hard water or food residues, clean the pan thoroughly and then use a deliming agent, like Lime-Away from ECOLAB, in accordance with the manufacturer's directions. Rinse and drain the unit before further use.

10. If especially difficult cleaning problems persist, contact your cleaning product representative for assistance. The supplier has a trained technical staff with laboratory facilities to serve you.

Maintenance

Your Braising Pan is designed for minimum maintenance, but certain parts may need replacement after prolonged use. Except for periodic adjustment of the slip clutch (located on the actuator tilt mechanism), no user modification should be necessary after installation. If a service need arises, only authorized personnel should perform the work.

To Adjust the Linear Actuator Slip Clutch:

While the pan is being raised or lowered the clutch may slip if the maximum load is exceeded, a jam occurs, or after extended use. The motor will continue to run, but the pan body will not tilt. **If this happens, immediately stop using the tilt switch. Verify that the pan body is not jammed. If it is not, the slip clutch must be adjusted before continuing operation.**

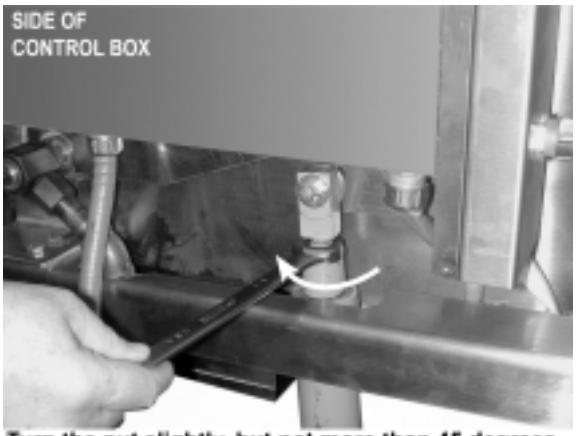
Tighten the clutch adjustment nut located beneath the control box by turning it slightly in a clockwise direction (but not more than 45 degrees). Do not over-tighten. See the photo on this page.

WARNING
IF THE PAN BODY DOES NOT MOVE WHEN THE TILT SWITCH IS ACTIVATED, DO NOT CONTINUE TO HOLD THE SWITCH IN EITHER THE RAISE OR LOWER POSITION. DAMAGE TO THE MOTOR OR SLIP CLUTCH MAY RESULT.

CAUTION
WHEN ADJUSTING THE SLIP CLUTCH, TIGHTEN THE NUT IN INCREMENTS OF 45 DEGREES TURNS OR LESS. OVER-TIGHTENING THE NUT WILL OVERRIDE THE CLUTCH AND CONVERT THE ACTUATOR INTO A DIRECT DRIVE. BOTH THE PAN AND THE ACTUATOR COULD BE DAMAGED.

Service personnel should check the unit at least once a year. This periodic maintenance should include inspecting electrical wires and connections, cleaning the inside of the control console, and possible adjustment of the pilot light. At least twice a year, grease the two trunnion bearings.

A Service Log is provided with the warranty information at the back of this manual. Each time service is performed on your Groen equipment, enter the date on which the work was done, what was done, and who did it. Keep the manual with the equipment.



Turn the nut slightly, but not more than 45 degrees.

Troubleshooting

Your Groen Braising Pan will operate smoothly and efficiently if properly maintained. However, the following is a list of checks to make in the event of a problem. If the actions suggested do not solve the problem, call your qualified Groen Service Representative. For the phone number of the nearest agency, call your area Groen representative or the Groen Parts and Service Department. If an item on the list is followed by X, the work should only be performed by a qualified service representative.

WARNING

BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRICAL POWER SUPPLY AND CLOSE THE MAIN GAS COCK. ALLOW FIVE MINUTES FOR UNBURNED GAS TO VENT.

USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY GROEN OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

IMPORTANT: Service performed by other than factory authorized personnel will void all warranties.

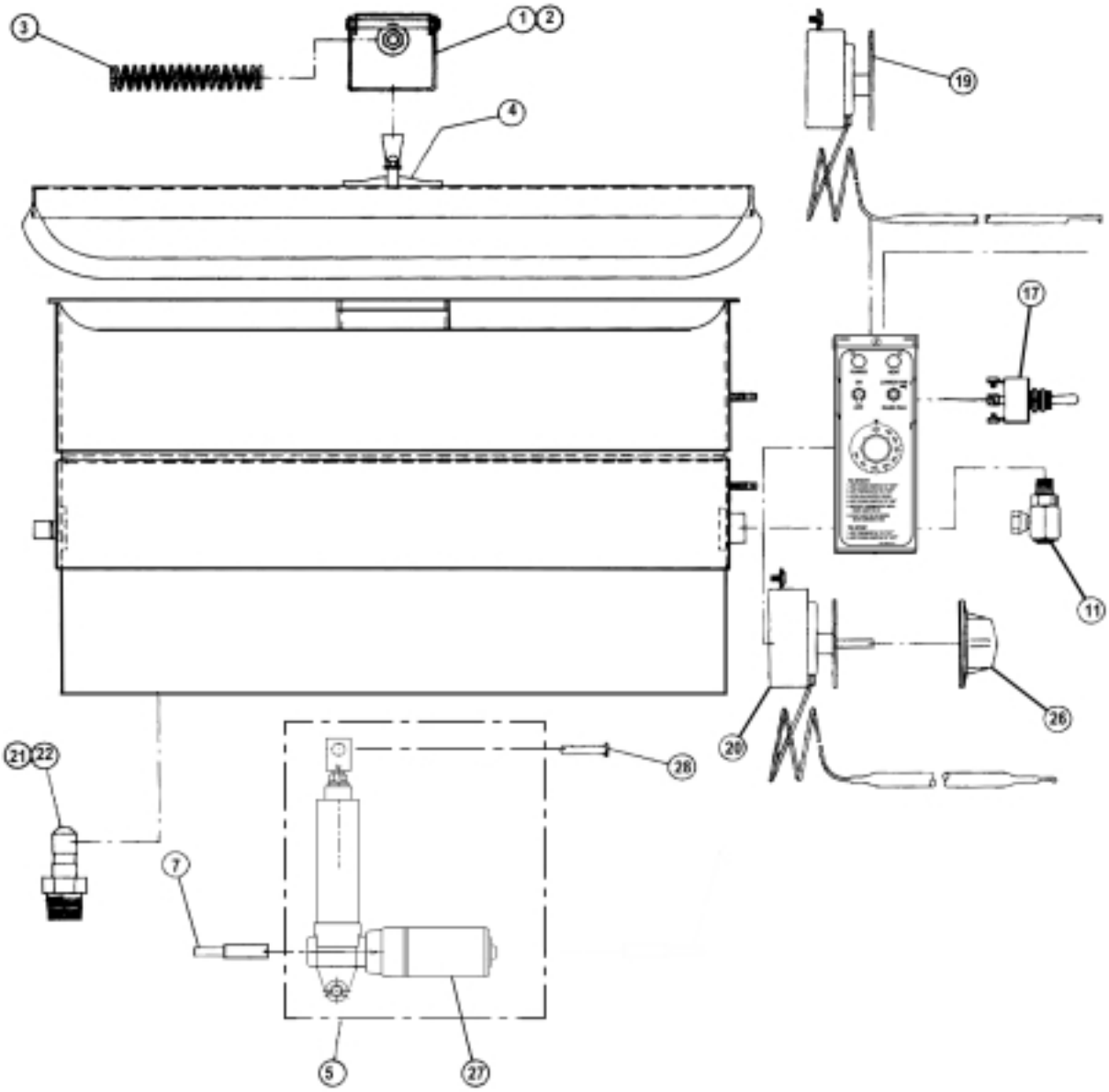
SYMPTOM	WHO	WHAT TO CHECK X indicates items which must be performed by an authorized technician.
Pan will not tilt	User	a. That electrical power supply is on. b. For overheated actuator motor. Wait 15 minutes for motor to cool, then operate the power tilt. c. Motor turns, but clutch slips. Tighten clutch adjustment nut with a slight (not more than 45 degrees) clockwise turn.
	Auth Service Rep Only	d. For burned out capacitor or motor.X
Burners will not light	User	a. That the main gas supply cock is open (handle is in line with the gas pipe) b. Gas supply to the building. c. That the pan body is horizontal.
	Auth Service Rep Only	d. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X e. That the tilt limit switch is closed when the pan body is within 10^{o} of horizontal. X
Pan continues to heat after it reaches desired temperature	User	a. Thermostat dial setting
	Auth Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan stops heating before reaching desired temperature.	User	a. Thermostat dial setting.
	Auth Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan heats unevenly	User	a. That the pan body is horizontal. b. That the pan is preheated properly in accordance with the instructions in the Operation section of this manual.

SYMPTOM	WHO	WHAT TO CHECK X indicates items which must be performed by an authorized technician.
System does not produce a spark	Auth Service Rep Only	a. Thermostat, and close the contacts if they are open X b. AC voltage between terminals on secondary side of transformer. If it is not 24 Volt, replace the transformer X c. That the high tension cable is in good condition. If cracked or brittle, replace. X d. Pilot electric ceramic for crack or break. X e. Pilot spark gap. Regap. X
Spark is present but the pilot will not light.	Auth Service Rep Only	a. That the pilot valve is securely connected to terminals. X b. For 24 VAC at terminals PV and PV/MV. If 24V is not present, replace the ignition control module. X c. That gas pressure is at least 3.5" W.C.(8.7818 ub). X d. For gas at the pilot. If it is not flowing: (1) Check the pilot gas line for kinks and obstructions. X (2) Clean orifice, if necessary. X (3) Check magnetic operator for pilot valve on gas valve. Repair or replace as necessary. X e. That the pilot spark gap is located in the pilot gas stream. If not, adjust or replace the pilot burner. X f. For drafts. Shield the pilot burner, if necessary. X
Pilot lights, but main burner will not come on and spark does not stay on.	Auth Service Rep Only	a. Check operating thermostat to see that it is closed at temperature setting higher than that of the current pan temperature. X b. For 24 V between terminals MV and PV/MV. If 24V is not present, replace the ignition control module. X c. That gas pressure is at least 3.5" W.C.(8.7818 ub). X d. Electrical connections of the main valve to terminals, to assure that they are securely attached. Check magnetic operator for main valve on gas valve. Repair or replace as necessary. X e. That secondary thermostat switch is closed. X
Pilot lights, but main burner will not come on, the spark stays on.	Auth Service Rep Only	a. Check for bad burner ground. If necessary, repair with high temperature wire. X b. Pilot burner ceramic insulator for cracks. X c. That high tension cable is not grounded out. If it is, correct the ground-out condition or the pilot burner. X d. For proper gas pressure. X e. Clean pilot assembly, or replace if necessary. X f. Tighten all mechanical and electrical connections. X g. If the pilot flame is weak, increase pilot orifice size. X h. Replace ignition control module. X
Main burner comes on but will not stay on.	Auth Service Rep Only	a. Check burner ground for bad wire or connection. Replace if necessary with high temperature wire. X b. Check for low gas supply pressure. If necessary, replace ignition control module. X

CAUTION

USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY GROEN OR THEIR AUTHORIZED DISTRIBUTOR CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

Parts List



Parts List

To order parts, contact your authorized Groen Service Agency. Supply the model designation, part description, part number, quantity, and, where applicable, voltage and phase.

Key	Description	Part No.
1, 2	Actuator Cover	014085
3	Spring	012533
4	Cover Assembly, Vent	017494
5	Actuator Assembly-complete	132413
x	Capacitor	132409
7	Tool, Actuator	132581
8	Comb Chamber-Burn Assy Model 4	128683
x	Valve, Gas Control	098443
11	Joint, Swivel, ½ NPT	076680
x	Valve, Manual Gas Shut-off	098458
17	Toggle Switch	002664
x	Switch, Mercury	128820
19	Thermostat, High-limit	013481
20	Thermostat, Operating	041700
21	Nat Gas Jet Main Burner	045897
22	Propane Jet Main Burner	050047
26	Thermostat Knob	057250

Key	Description	Part No.
27	Actuator Motor (motor only)	132414
x	Actuator Motor Bracket	132321
28	Support Pin, Upper	056909
x	Transformer	106233
x	Orifice Igniter Tube	see table
x	Runner Tube, Size 3	128807
x	Runner Tube, Size 4	128806
x	Spacers	012733
x	Back Panel, Size 3	054678
x	Back Panel, Size 4	054679
x	Casters	049279
x	Casters	049280

ORIFICE IGNITER TUBE	
NHFP/3, Natural Gas	101622
NHFP/4, Natural Gas	101621
NHFP/3, Propane Gas	101624
NHFP/4, Propane Gas	101623

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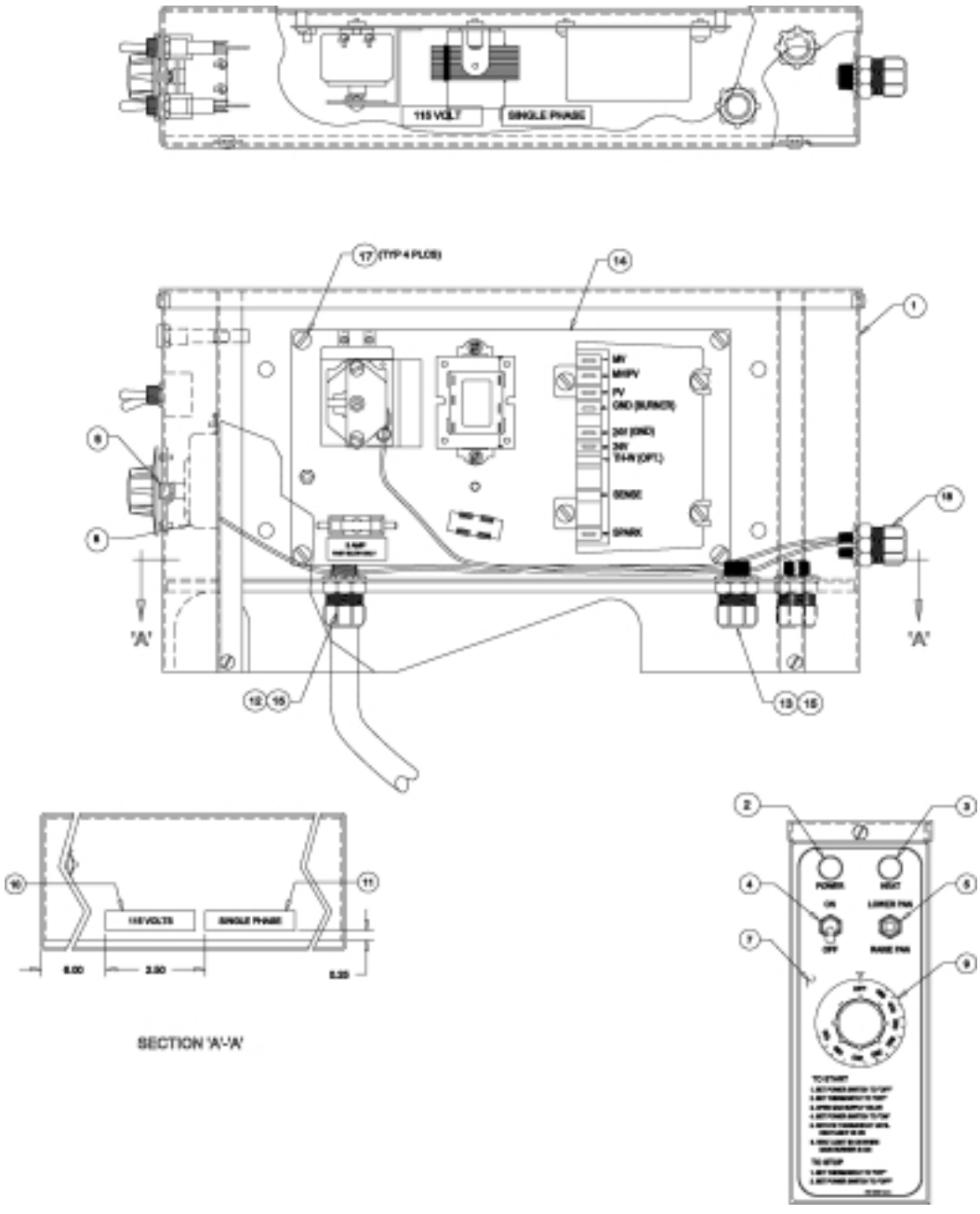
Parts List

Control Box Assembly



128681 Rev. C

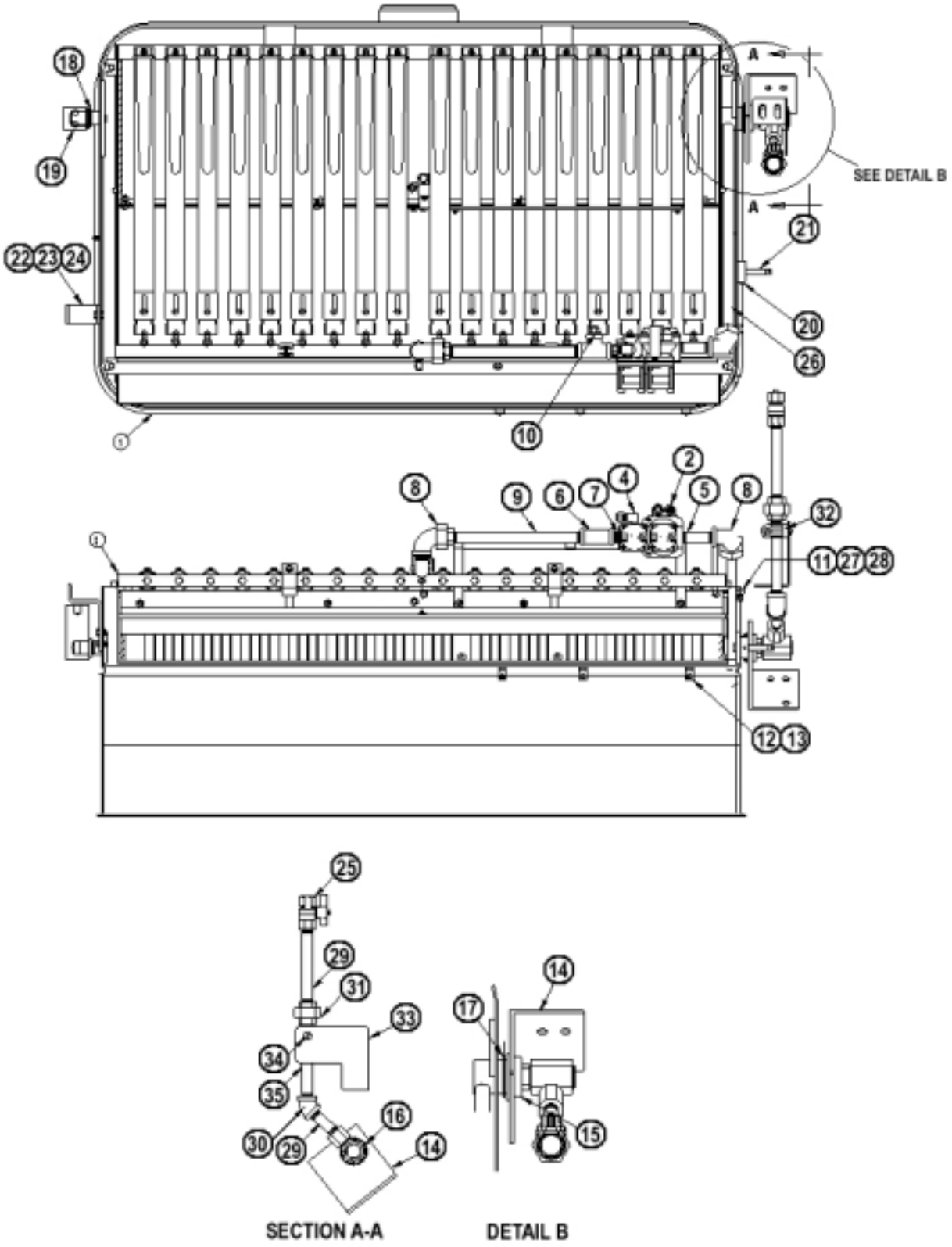
Parts List

Control Box Assembly

Key	Description	Part No.
1	Control Box Enclosure Assembly	128520
2	Light, Indicator, 24V, Red	116383
3	Light, Indicator, 24V Amber	116384
4	Switch, SPST, On-Off	006904
5	Switch, Momentary, Toggle, SPDT	002664
6	Grommet	001518
7	Overlay, Front Panel, NHFP-E	128601
8	Thermostat, 100° to 450° F	041700
9	Knob, Thermostat	057250
10	Label, “115 Volts”	008118B
11	Label, “Single Phase”	008118K
12	Harness Hoffman box to ctrl box	128680
13	Cord, Grip 1/2" NPT x .450 - .560	132043
14	Electrical Panel Assembly NHFP-E	128585
15	Conduit Nut 1/2"	005487
17	Screw truss head #8-32 x 3/8" long	005764
18	Cord Grip, 1/2" NPT x .125 - .250	132053

Parts List

Gas Piping Assembly



OM/SM-NHFP

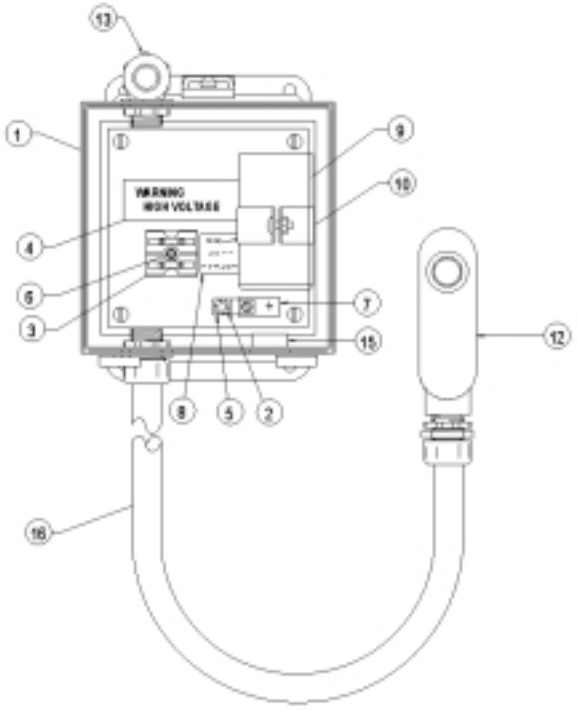
Parts List

Key	Description	Part No.
1	Pan subassembly NHFP	128682
2	Gas Valve	098443
3	Combustion Chamber & Burner Assy	128683
4	Elbow 90° 1/8" NPT x 1/4" tube comp	097195
5	Nipple, 1/2" NPT x 1/2" long	004184
6	Tee, 1/2" NPT	008772
7	Nipple, 1/2" NPT x Close	008877
8	Elbow, 90° Union 1/2" NPT	005495
9	Nipple 1/2" NPT x 9" long	027224
10	Connector 1/2" NPT x 1/4" tube comp	049429
11	Clamp, Conduit 3/8" OD	008224
12	Clamp, 1/4" duplex tube	005045
13	Nut hex, #10-32 stainless steel	013613
14	Bracket, trunnion spt, 7 Ga	067068
15	Bearing, flanged 1-1/2" x 1-3/4" x 5/8"	045894
16	Swivel Joint, 1/2" NPT	076680
17	Ring, external retaining 1-1/2" dia.	006941
18	Ring, external retaining 7/8" dia.	006791
19	Trunnion block assy	092030
20	Screw Set, socket 1/4-20 x 1/2"	005592
21	Pin, threaded, Clevis 3/8 x 1-1/2"	071924
22	Support, Pan 7GA	050002
23	Nut, hex, Keps 1/4-20	012940
24	Screw, hex head cap 1/4-20 x 1/2"	005608
25	Valve gas manual shut-off 1/2" NPT	098458
26	Nipple, 1/2" x 15"	048570
27	Nut, Dome 10-32, stainless steel	128756
28	Washer	005654
29	Nipple	005551
30	Elbow 45 deg.	012782
31	Union	004186
32	Conduit Hanger	012852
33	Bracket	131253
34	Screw	012700
35	Nipple	010234

OM/SM-NHFP

Parts List

Motor Control Box Assembly (P/N 128673)

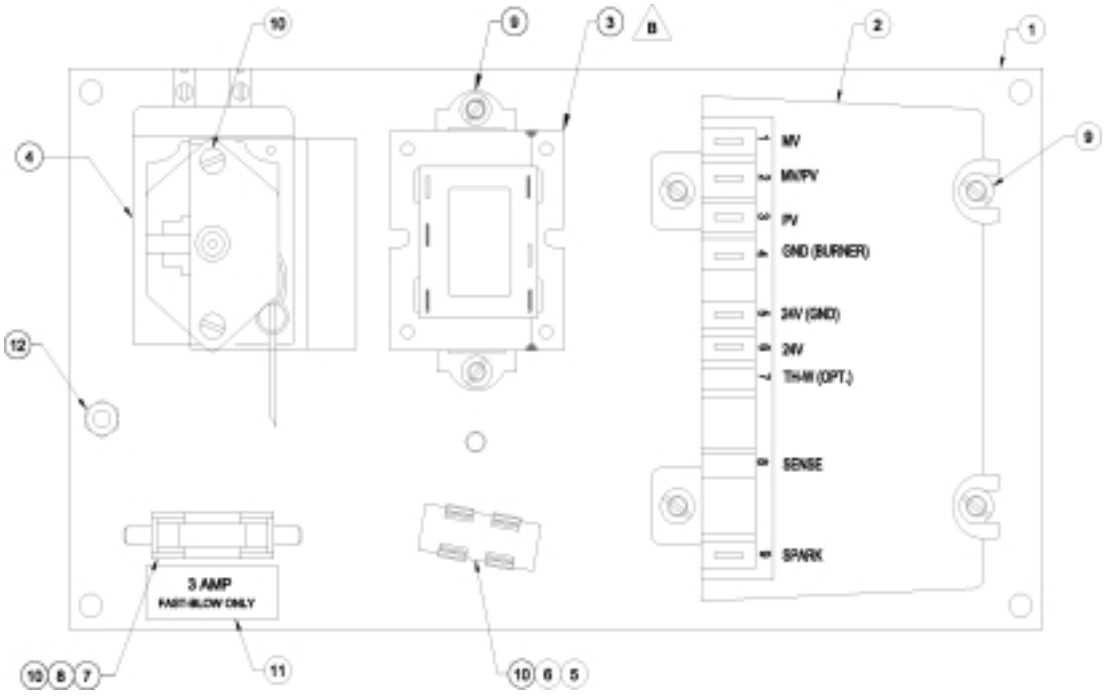


Key	Description	Part No.
1	Modified Hoffman Box	049068
2	Nut, hex Keps #10-32	071256
3	Terminal Block 2 Pole, #4 - #19 AWG	003887
4	Label, “Warning High Voltage”	072140
5	Lug, Ground, 14-6 AWG	119829
6	Screw, round head #8-32 x 1.25 long	005056
7	Label, “Earth Ground”	003384
8	Label, Electrical Connection	102229

Key	Description	Part No.
9	Capacitor, 28-33 Micro Farad	132409
10	Clamp	003576
x	Nut, hex 1/4-20	008072
12	Conduit Body 1/2" Type LB	132500
13	Harness wiring	128680
x	Conduit Nut, 1/2"	005487
15	Bushing Snap 11/16" ID x 7/8"	012864
16	Harness Hoffman Box to Actuator Motor	132522

x - Not Shown

Parts List
Electrical Panel Assembly

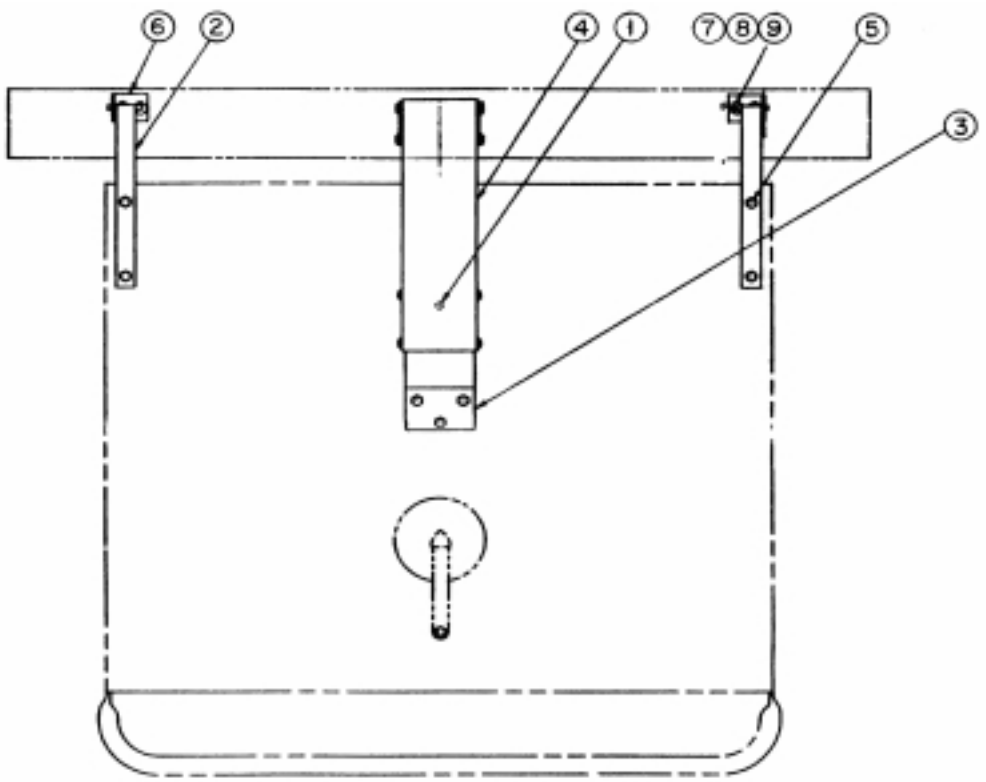


#128585 Rev. B

Key	Description	Part No.
1	Panel, Electrical Weldment NHFP	128584
2	Spark Ignition Module	085153
3	Transformer 20VA, 120V, 24V Secondary	137487
4	Thermostat 425° F	013481
5	Switch, Mercury	128820
6	Mounting Bracket for Mercury Switch	122177
7	Fuse Holder, type 3AG w/.188" quick connect	077854
8	Fuse 3.0 Amp, Type 3 AG	077853
9	Screw, pan head #8-32 x .375" lg.	005764
10	Screw round head #6-32 x .25" lg.	018384
11	Label “3 Amp Fast Blow Only”	102251
12	Nut, hex, Keps #10-32	071256
x	Harness, Wiring Kit NHFP-E	128678

x - Not Shown

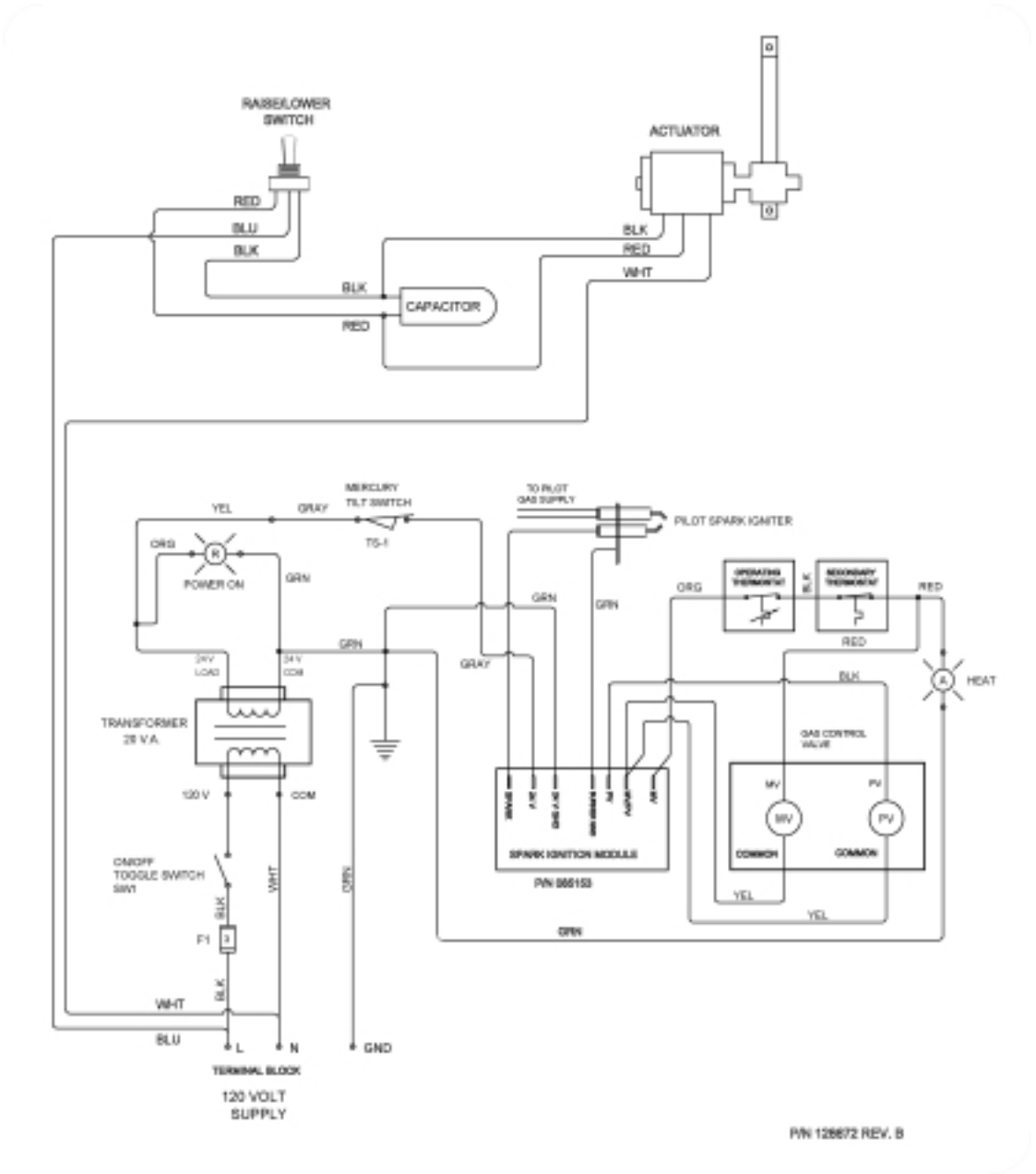
Parts List
Cover Hinges and Actuator



Key	Description	Part No.	
		Size 3 Pan	Size 4 Pan
1	Stud-Weld 1/4-20 x 3/8"	012590	012590
2	Hinge, Cover	013485	013485
3	Bracket, Cover Attachment Z	013277	013277
4	Actuator Assembly	014085	014085
5	Nut, Dome, 1/4-20	005471	005471
6	Bracket, Hinge	054876	004556
7	Jam Nut, Hex, 5/16 - 18	003823	003823
8	Washer, Lock 5/16	005656	005656
9	Screw, 5/16 - 18 x 3/4” Long	006014	006014

Electrical Schematic

NHFP/E with Electronic Ignition



References

CSA International
8501 East Pleasant Valley Rd.
Cleveland, Ohio 44131

Z223.1-1984 *National Fuel Gas Code*

American National Standards Institute
1403 Broadway
New York, New York 10018

Canadian Gas Association
55 Scarsdale Road
Don Mills, Ontario M3B 2R3

ECOLAB, INC.
370 Wabasha
St. Paul, Minnesota 55102

National Fire Protection Association
60 Battery March Park
Quincy, Massachusetts 02269

NFPA/54 *Installation of Gas Appliances & Gas Piping*
NFPA/70 *The National Electrical Code*
NFPA/96 *Ventilating Hoods*

National Sanitation Foundation
3475 Plymouth Road
Ann Arbor, Michigan 48106

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, Illinois 60062

ZEP Manufacturing
1390 Lunt Avenue
Elk Grove Village, Illinois 60007

Service Log

Model No. _____ Purchased From _____

Serial No. _____ Location _____

Date Purchased _____ Date Installed _____

Purchase Order No. _____ For Service Call _____

Date	Maintenance Performed	Performed by

Limited Warranty
*To Commercial Purchasers**

(Domestic U.S., Hawaii &
Canadian Sales Only)

Groen Foodservice Equipment ("Groen Equipment") has been skillfully manufactured, carefully inspected and packaged to meet rigid standards of excellence. Groen warrants its Equipment to be free from defects in material and workmanship for (12) twelve months with the following conditions and subject to the following limitations.

I. This parts and labor warranty is limited to Groen Equipment sold to the original commercial purchaser/users (but not original equipment manufacturers), at its original place of installation in the continental United States, Hawaii and Canada.

II. Damage during shipment is to be reported to the carrier, is not covered under this warranty, and is the sole responsibility of purchaser/user.

III. Groen, or an authorized service representative, will repair or replace, at Groen's sole election, any Groen Equipment, including but not limited to, draw-off valves, safety valves, gas and electric components, found to be defective during the warranty period. As to warranty service in the territory described above, Groen will absorb labor and portal to portal transportation costs (time & mileage) for the first twelve (12) months from date of installation or fifteen (15) months from date of shipment from Groen.

IV. This warranty does not cover boiler maintenance, calibration, periodic adjustments as specified in operating instructions or manuals, and consumable parts such as scraper blades, gaskets, packing, etc., or labor costs incurred for removal of adjacent equipment or objects to gain access to Groen Equipment. This warranty does not cover defects caused by improper installation, abuse, careless operation, or improper maintenance of equipment. This warranty does not cover damage caused by poor water quality or improper boiler maintenance.

V. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL GROEN BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.

VI. Groen Equipment is for commercial use only. If sold as a component of another (O.E.M.) manufacturer's equipment, or if used as a consumer product, such Equipment is sold AS IS and without any warranty.

* (Covers All Foodservice Equipment Ordered After October 1, 1995)

A DOVER COMPANY

GROEN

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Jackson, MS 39272
Telephone 601 372-3903
FAX 601 373-9587

OM-NHFP (Revised 4/02)
Part Number 121061
Rev. B